

Appl. S.N.: 10/629,146
Amdt. Dated: February 6, 2006
Reply to Office Action of November 6, 2006

RD-29279-1

Amendments to the Specification

Please replace paragraph [0005] with the following paragraph:

[0005] The present invention provides an apparatus and method for cleaning articles. In one embodiment, an article cleaning apparatus 1000 comprises: an air management mechanism 1; a cleaning basket assembly 2; a fluid processing mechanism 4 comprising ~~comprises~~ an ultrafiltration filter 127 having a pore size of about 0.01 microns to about 0.2 microns; and a controller 5 configured to control a cleaning process using a solvent based cleaning fluid, wherein said air management mechanism 1 is in communication with said cleaning basket assembly 2 and with said fluid processing mechanism 4; said cleaning basket assembly 2 is in communication with said fluid processing mechanism 4; and said controller 5 is in communication with said air management mechanism 1, with said cleaning basket assembly 2, and with said fluid processing mechanism 4.

Please replace paragraph [0006] with the following paragraph:

[0006] In another embodiment, an article cleaning apparatus 1000 comprises: an air management mechanism 1; a cleaning basket assembly 2; a fluid processing mechanism 4 comprising a working fluid device 6, a fluid regeneration device 7, and a clean fluid device 8; and a controller 5 configured to control a cleaning process using a solvent based cleaning fluid or a water based cleaning fluid, wherein said air management mechanism 1 is in communication with said cleaning basket assembly 2, with said working fluid device 6, and with said clean fluid device 8; said cleaning basket assembly 2 is in communication with said ~~fluid~~ working fluid device 6; and with said clean fluid device 8; and said controller 5 is in communication with said air management mechanism 1, with said cleaning basket assembly 2, with said ~~fluid~~ working fluid device 6, with said fluid regeneration device 7, and with said clean fluid device 8, and wherein

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said fluid regeneration device 7 comprises an ultrafiltration filter 127 having a pore size of about 0.01 microns to about 0.2 microns.

Please replace paragraph [0007] with the following paragraph:

[0007] In another embodiment, a method for performing a solvent based cleaning process using an article cleaning apparatus 1000 comprises: passing a solvent based cleaning fluid through an ultrafiltration filter having a ~~having a~~ pore size of about 0.01 microns to about 0.2 microns.

Please replace paragraph [0025] with the following paragraph:

[0025] The fluid processing mechanism 4 comprises a working fluid device 6, a fluid regeneration device 7, and a clean fluid device 8. The working fluid device 6 is in communication with the air management mechanism 1, the cleaning basket assembly 2, the fluid regeneration device 7, and the clean fluid device 8. The fluid regeneration device 7 is in communication with the working fluid device 6 and the clean fluid device 8. Further, the fluid regeneration device 7 comprises an ultrafiltration device. The clean fluid device 8 is in communication with the working fluid device 6, the fluid regeneration device 7, the cleaning basket assembly 2, and the ~~air management intake~~ mechanism 1. Further, the working fluid device 6, fluid regeneration device 7, and clean fluid device 8 are each in communication with the controller 5. The controller 5 is configured to control a cleaning process using a solvent based cleaning fluid and water based cleaning fluid.

Please replace paragraph [0028] with the following paragraph:

[0028] The fluid regeneration device 7 comprises an ultrafiltration filter as previously described. The ultrafiltration filter comprises materials compatible with the solvent based cleaning fluid used ~~to in~~ the article cleaning apparatus 1000 and method of cleaning and has a pore size range of about 0.01 microns to about 0.2 microns. In an embodiment, the ultrafiltration filter is operable to only

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allow materials having a molecular weight of less than 100,000 daltons to pass through. In another embodiment, the ultrafiltration filter comprises an ultrafiltration membrane. In another embodiment, the ultrafiltration filter comprises an ultrafiltration membrane in a spiral wound configuration or as hollow fiber filters.

Please replace paragraph [0029] with the following paragraph:

[0029] In an embodiment where the ultrafiltration filter comprises an ultrafiltration membrane, the fluid regeneration device 7 device further comprises a flushing device in communication with the ultrafiltration membrane, wherein the flushing device is operable to reverse ~~the~~to flow of solvent based cleaning fluid through the ultrafiltration filter.

Please replace paragraph [0030] with the following paragraph:

[0030] Referring now to Figure 3, in an embodiment, the fluid regeneration device 7 comprises a regeneration cartridge 141 comprising an ultrafiltration filter 127. The inlet side of the regeneration cartridge 141 is in communication with the working fluid device 6. The regeneration cartridge 141 further comprises at least a water ~~adsorption~~absorption media 130 in communication with a cleaning fluid regeneration ~~adsorption~~absorption media 135. In another embodiment, the regeneration cartridge 141 further comprises a mechanical filter 120 and a particulate filter 125.

Please replace paragraph [0031] with the following paragraph:

[0031] In one embodiment of the regeneration cartridge 141, a solvent based cleaning fluid flowing from the cleaning basket assembly 2 passes sequentially through the mechanical filter 120, particulate filter 125, ultrafiltration filter 127, water ~~adsorption~~absorption media 130, and cleaning fluid regeneration ~~adsorption~~absorption media 135. The cleaning fluid regeneration adsorption media 135 contains a portion of the solvent based cleaning fluid in order to

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replenish the solvent based cleaning fluid that is consumed during an article cleaning process. The cleaning fluid regeneration adsorption media 135 also contains a replacement amount of solvent based cleaning fluid which is disposed of when changing out the regeneration cartridge 141.

Please replace paragraph [0035] with the following paragraph:

[0035] The storage tank in the clean fluid device 8 stores the solvent based cleaning fluid received from the fluid regeneration device 7. The clean fluid device 8 further comprises a pump ~~that~~ in communication with the storage tank. The pump is in communication with the cleaning basket assembly 2.